## \*\*11/4/03 DRAFT\*\*

# Fire Regime Condition Class (FRCC) Interagency Handbook Reference Conditions

Modeler: Doug Havlina Date: 8/15/03 PNVG Code: CSAG1

Potential Natural Vegetation Group: Sagebrush-Cool (Mountain Big

Sagebrush) Without Trees.

Geographic Area: Pacific Northwest, Columbia Plateau, Northern Rockies,

Central Rockies, Great Basin.

**Description**: PNVG commonly found at the upper elevations of the big sagebrush zone, sites are usually montane valleys, mountain slopes, and subalpine meadows. Mountain big sagebrush often occurs at ecotones with conifer forests and meadow habitats between 2500' and 9800' elevation. Soils are characterized as moderately well drained, typically having summer moisture from snowmelt or other sources. Common associates include quaking aspen, ponderosa pine, Douglas-fir, subalpine fir, and whitebark pine.

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**Fire Regime Description:** Fire Regimes III and II; primarily short-interval (e.g., 20-40 yr) mixed severity- and stand replacement fires.

#### **Vegetation Type and Structure**

Class	Percent of	Description
	Landscape	
A: post	20	Post-fire community of mountain forbs,
replacement		grasses, and sprouting shrubs
B: mid-	25	Mid-seral, dense (>15%) canopy cover
development		sagebrush stands with understory of mountain
closed		forbs and grasses
C: mid- open	40	Mid-seral, open (<15%) sagebrush community
		with perennial grasses and forbs in interspaces
D: late- open	10	Late-seral, open (<15%) sagebrush community
		with mixed shrub/herbaceous community
E: late- closed	5	Late-seral, closed (>15%) sagebrush
		community, noticeable dead component, with
		mixed shrub/herbaceous community
Total	100	

Fire Frequency a	nd Severity				
Fire Frequency-	Modeled	Pct, All	Description		

Severity	Probability	Fires	
Replacement Fire	.024	40	Crown fire in stages A, B, D and E
Non-Replacement	.036	60	Mosaic fire in stages B, C, and D
Fire			-
All Fire Frequency*	.06	100	

<sup>\*</sup>Sum of replacement fire and non-replacement fire probabilities.

#### References

Agee, James K. 1993. Fire Ecology of Pacific Northwest Forests. Island Press, Washington D.C. 493 p.

Agee, James K. 1994. Fire and Weather Disturbances in Terrestrial Ecosystems of the Eastern Cascades. Gen. Tech. Rep. PNW-GTR-320. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 37 p.

Anderson, Hal E. 1982. Aids to Determining Fuel Models For Estimating Fire Behavior. Gen. Tech. Rep. INT-122. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Forest and Range Experiment Station. 22 p.

Arno, Stephen F. 2000. Fire in western forest ecosystems. In: Brown, James K.; Kapler-Smith, Jane, eds. Wildland fire in ecosystems: Effects of fire on flora. Gen. Tech. Rep. RMRS-GTR-42-vol. 2. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station: 97-120.

Arno, Stephen F., and Menakis, James P. 1997. Fire Episodes in the Inland Northwest (1540-1940) Based on Fire History Data. Gen. Tech. Rep. INT-GTR-370. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station. 17 p.

Brown, James K.; Smith, Jane Kapler, eds. 2000. Wildland fire in ecosystems: effects of fire on flora. Gen. Tech. Rep. RMRS-GTR-42-vol. 2. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 257 p.

Franklin, J.F., and Dyrness, C.T. 1973. Vegetation of Oregon and Washington. Research Paper PNW-80. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station. 216 p.

Hardy, Colin C., Kirsten M. Schmidt, James P. Menakis, R. Neil Samson. 2001. Spatial data for national fire planning and fuel management. Int. J. Wildland Fire. 10(3&4): 353-372.

Hironaka, M., Fosberg, M.A., and Winward, A.H. 1983. Sagebrush-Grass Habitat Types of Southern Idaho. University of Idaho, College of Forestry, Wildlife, and Range Sciences Bulletin Number 35. 44 p.

Johnson, C.G., and Simon, S.A. 1987. Plant Associations of the Wallowa-Snake Province. U.S. Forest Service Region 6 Ecological Technical Paper 255A-86.

Kilgore, B.M. 1981. Fire in ecosystem distribution and structure: western forests and scrublands. p. 58-89. In: H.A. Mooney et al. (Technical Coordinators). Proceedings: Conference on Fire Regimes and Ecosystem Properties, Honolulu, 1978. Gen. Tech. Rep. WO-GTR-26.

Kuchler, A.W. 1964. Potential Natural Vegetation of the Conterminous United States. American Geographic Society Special Publication No. 36. 116 p.

McKenzie, Donald, Peterson, David L., and Agee, James K. 2000. Fire Frequency in the Interior Columbia River Basin: Building Regional Models from Fire History Data. Ecological Applications, 10(5), 2000. p. 1497-1516.

Miller, Rick, Baisan, Chris, Rose, Jeff, and Pacioretty, Dave. 2001. Pre-and Post-Settlement Fire Regimes in Mountain Big Sagebrush and Aspen: The Northwestern Great Basin. Final Report to the National Interagency Fire Center. 28 p.

Miller, Richard F., and Rose, Jeffrey A. 1999. Fire history and western juniper encroachment in sagebrush steppe. J. Range Manage. 52:550-559. November 1999.

Ogle, Karen, and DuMond, Valerie. 1997. Historical Vegetation on National Forest Lands in the Intermountain Region. U.S. Department of Agriculture, Forest Service, Intermountain Region, Ogden, UT. 129 p.

Ott, Jeffrey, E., McArthur, E. Durant, and Sanderson, Stewart C. 2001. Plant Community Dynamics of Burned and Unburned Sagebrush and Pinyon-Juniper Vegetation in West-Central Utah. In: Proceedings, USDA Forest Service RMRS-P-9. p. 177-190.

Platou, Karen A. 1985. Plant Successional Patterns on Seral Sagebrush/Grass Ranges in Northern Nevada. M.S. Thesis, University of Nevada, Reno. 105 p.

Schmidt, Kirsten M, Menakis, James P., Hardy, Colin C., Hann, Wendel J., Bunnell, David L. 2002. Development of coarse-scale spatial data for wildland fire and fuel management. Gen. Tech. Rep. RMRS-GTR-87. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 41 p. + CD.

Stein, Steven J. 1988. Fire History of the Paunsaugunt Plateau in Southern Utah. Great Basin Naturalist. Vol. 48, No. 1. p. 58-63.

U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (2002, December). Fire Effects Information System, [Online]. Available: <a href="http://www.fs.fed.us/database/feis/">http://www.fs.fed.us/database/feis/</a> [Accessed: 1/26/03].

USDI Bureau of Land Management, Idaho State Office. 1999. Proceedings: Sagebrush Steppe Ecosystems Symposium. (Entwistle, Patricia G., DeBolt, Ann M., Kaltenecker, Julienne H., and Steenhof, Karen [Compilers]). Publication No. BLM/ID/PT-001001+1150. 145 p.

Wall, Travis G., Miller, Richard F., and Svejcar, Tony J. 2001. Juniper encroachment into aspen in the Northwest Great Basin. J. Range Manage. 54:691-698. November 2001.

Ward, Kenneth V. 1977. Two-Year Vegetation Response and Successional Trends for Spring Burns in the Pinyon-Juniper Woodland. M.S. Thesis, University of Nevada, Reno. 54 p.

Wright, Henry A., Neuenschwander, Leon F., and Britton, Carlton M. 1979. The role and use of fire in Sagebrush-Grass and Pinyon-Juniper Plant Communities. Gen. Tech. Rep. INT-GTR-58. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station. 48 p.

Young, James A., and Evans, Raymond A. 1981. Demography and Fire History of a Western Juniper Stand. J. Range Manage. 34:501-505. November 1981.

Young, James A., and Evans, Raymond A. 1978. Population Dynamics after Wildfires in Sagebrush Grasslands. J. Range Manage. 31:283-289. July 1978.

### **VDDT Results**







